

ADDITIONAL NOTES ON THE GENUS *GEUNSIA*. II

Harold N. Moldenke

*GEUNSIA* Blume

Additional bibliography: Mold., *Phytologia* 50: 46--68 (1981) and 50: 143--151. 1982.

*GEUNSIA FARINOSA* Blume

Additional bibliography: Mold., *Phytologia* 50: 143, 144, & 146--151. 1982.

Fernandez-Villar (1880) reduces *Callicarpa pentandra* Roxb. to the synonymy of *Geunsia farinosa*, citing Cuming 1773 from the Philippine Islands, but this reduction is incorrect. The two taxa are quite distinct.

Schauer (1847) accepts *Callicarpa pentandra* as a valid species, reducing *Geunsia farinosa* Blume to its synonymy, also citing Cuming 1773 as well as unnumbered Blume and Kollmann collections from Java. Fletcher (1938) and Meeuse also regard the two taxa as conspecific, using *G. pentandra* as the valid name.

Hooker (1885) reduces both *Callicarpa pentandra* and *Callicarpa acuminatissima* Teijsm. & Binn. to *Geunsia farinosa*, commenting that "C. hexandra Teijsm. & Binn.....is *C. cumingiana* Schau....or very nearly so, and perhaps neither is distinct from *Geunsia farinosa*; but Cuming's n. 1773, reduced to *G. farinosa* by Schauer, is probably, as stated in Gen. Pl. 2, p. 1150, a good species."

Heyne (1917) and Warburg (1891) also include *Callicarpa pentandra* in their concept of *Geunsia farinosa*, the latter citing an unnumbered Hollrung collection.

Junell (1934) studied the gynoecium morphology of *Geunsia farinosa* as typical of the genus and says, on the basis of an unnumbered Ridley and an unnumbered Zollinger collection: "Obwohl ich nur von einigen wenigen Fruchtknoten Querschnittsreihen herstellte, erhielt ich Präparate von fünf-, vier- und dreizähligen Gynäceen. Bocquillon.....führt ein Diagramm des Blütenbaus bei dieser Art an, in dem man deutlich die Stellung der fünf Fruchtblätter und die Lokalisierung der Samenanlagen auf den Fruchtblättern sehen kann. Ein Querschnitt eines fünfzähligen Gynäcums wird in Taf. VI, Fig. 1 wiedergegeben. Durch Verwachsung der nach innen gekrümmten Teile der Fruchtblätter werden fünf Plazenten gebildet. Die Fruchtblattränder verwachsen nicht miteinander, und die Samenanlagen sitzen wie bei *Chloanthoideae* an der Innenseite der Fruchtblätter in einiger Entfernung vom eigentlichen Fruchtblattrand. Die mittleren Partien der Fruchtblätter sind etwas verdickt und enthalten wie gewöhnlich ein Leitbündel. Bei Fruchtknoten mit nur vier Plazenten kann wann bisweilen Reste des fünften Fruchtblatts sehen. Die Fruchtwand kann nämlich zwischen benachbarten Plazenten an zwei Stellen verdickt sein, welche Ausbauchungen dann je ein Gefäßbündel enthalten. Diese

ausgebauchten Partien entsprechen offenbar den Mitten zweier Fruchtblätter. Die in allen Quirlen fünfzählige, aktinomorphe *Geunsia*-Blüte wird im allgemeinen als ein sehr ursprünglicher Blütentypus betrachtet, dessen Vorkommen dafür spricht, dass Verbenaceae eine der ältesten und ursprünglichsten Sympetalen Familien ist. Dies kann wirklich der Fall sein, aber es ist andererseits auch nicht undenkbar, dass das Gynaceum zweizählig geworden war, bevor noch die verschiedenen Sympetalen-Familien differenziert worden waren. In diesem Falle wäre dann die *Geunsia*-Blüte als ein abgeleiteter, sekundärer Typus zu betrachten. Der Umstand, dass man bei den vierzähligen Gynäceen Reste eines fünften Fruchtblatts finden kann, spricht jedoch meines Erachtens dafür, dass die fünfzählige Typus ursprünglich ist. Auch der Umstand, dass *Geunsia* ausser gegenständigen Blättern auch wechselständige hat, scheint dafür zu sprechen, dass diese Gattung sehr ursprünglich ist."

Vernacular and common names recorded for the species include "alú", "ambong" [=having soft pith-like wood], "bayoboh", "eoéa", "hafo", "hai", "hahomboe oei", "ioeá". "kajoe hakomboe", "kajoe kakomboe", "kametoe", "kata kéra", "ki-hoeoë", "kilhoeoet", "ki-hoeoët", "ligoran", "limagao", "membatu puteh" ["membatu" is applied to several small unrelated trees], "netepoeng", "netepoeng eoéa", "ngoltoep", "piat" [applied also to *Premna* spp.], "poko amban", "red-berried Malayan lilac", "selepoeng", "tambong", "tambourg", "tampang besi" [applied also to *Callicarpa* spp.], "tampang besih", "tapong", "tilam", "tombung", and "umpang".

It should be noted that the Blume (1826) reference in the bibliography (above) is sometimes cited as "1825", but incorrectly so.

Schumann & Lauterbach (1900) cite from New Guinea: Hellwig 377 & 486, Hollrung 872, Lauterbach 3, 972, 1241, 1417, & 2027, and Warburg Bamler II.14 and give its natural distribution as Singapore to Papua. Schumann & Hollrung (1889) aptly remark that "Entweder ist *G. farinosa* Bl. eine bezüglich der Behaarung ungewöhnlich variable Pflanze oder es sind in der Art mehrere andere verborgen. Die Behaarung meiner Exemplare ist ausserordentlich stark filzig, von längeren steifen Haaren überragt, die Farbe ist gelbgrün; die Pflanze kommt etwa mit den Exemplaren überein, welche Wallich von Singapore vertheilt hat. Die Cuming'sche n. 1773 soll nach Hooker und Clarke davon verschieden sein. Ich habe aber Blume'sche Originale gesehen, die durchaus mit jener zusammenfallen. Was die Gattungsmerkmale von *Geunsia* anbetrifft, so scheinen mir diese auf sehr schwachen Füssen zu stehen, denn ich habe nicht blos gelegentlich tetramere Blüthen gefunden, sondern die *G. Cumingiana* Rolfe hat an dem Exemplare des Berliner Herbards meist solche. Einen Unterschied von *Callicarpa* im Habitus kann ich kaum erkennen."

Bakhuisen & Lam (1924) cite DeBruyn 374 from Schouten island. They give its distribution as Malay Archipelago and Philippine Islands. Ridley (1923) describes it as common in open country and the edges of woods, citing unnumbered collections of Curtis, Kloss, Kunstler, Machado, and Wallich from Singapore, Pahang, Selangor,

Perak, and Lankawi, listing it also from "Siam, Java to Philippines". Lam (1924) gives its distribution as Singapore, Malay Archipelago, Philippine Islands, and New Mecklenburg, citing Peekel 682 from New Ireland. Lam (1919) cites Amdjah 973, Korthals s.n. [Herb. Lugd.-Bat 908.267-655 & 905.265-1121, 1122, & 1123], and Winkler 2141 from Borneo, Elbert 2690 & 2760 from Buton, Forsten 12 from Celebes, Elbert 3378 from Kabaena, Elmer 10856 & 11102 from Mindanao, and Peekel 682 from New Ireland. Moldenke (1963) gives its overall distribution as Thailand, Malaya, Philippine Islands, Simalur Islands, Sumatra, Java, Borneo, Celebes, Lesser Sunda Islands, Molucca Islands, New Guinea, and Bismarck Archipelago, citing Larsen 8676 from Thailand.

*Gillis* 11414 represents material cultivated in Florida grown from seeds introduced from Indonesia; *Walsingham* P.I. 136643 was cultivated in Cuba from seed introduced from the Philippines.

Material of *G. farinosa* has been misidentified and distributed in some herbaria as *G. acuminatissima* (Teijsm. & Binn.) H. J. Lam, *G. hexandra* Koord., *G. pentandra* (Roxb.) Merr., *Callicarpa cumingiana* Schau., *C. pedunculata* R. Br., *C. "pendandra"* Roxb., *C. pentandra* Roxb., *C. pentandra* f. *floccosa* Bakh., *C. reevesii* Wall., *C. tomentosa* Willd., *C. tomentosa* var. *lanata* (L.) Bakh., *C. sp.*, *Premna pentandra* Roxb., *P. "petandra"* Roxb., and *Wormia suffruticosa* Griff.

On the other hand, the *Asdat* 2, *Herb. Bogor.* 1862a, and *Yates* 629, distributed as *Geunsia farinosa*, actually are *Callicarpa arborea* Roxb., while *Ahern* 318 is *C. surigaensis* Merr., *Wiakabu & Simaga LAE.70218* is *Geunsia cumingiana* (Schau.) Rolfe, *Ahern* 378 and *Quadras* 341 are *G. cumingiana* var. *dentata* (Bakh.) Mold., *Evangelista* 935, *Kadir* s.n. [Herb. N. Born. Forest. Dept. A.2100] and *Native Collector* 277, 533, 5016, & 5122 are *G. furfuracea* (Bakh.) Mold., *Krukoff* 4351 and *Toroes* 5104 are *G. grandiflora* H. Hallier, *Herb. Lugd.-Bat.* 908.266-876 is *G. hexandra* (Teijsm. & Binn.) Koord., *Ramos & Edaño* s.n. [Herb. Philip. Bur. Sci. 49732] is *G. paloensis* (Elm.) H. J. Lam, and *Blume* s.n., *Chai SAN.21640 & 34099*, *Kollmann* s.n. [1838], *Ramos & Edaño* s.n. [Herb. Philip. Bur. Sci. 44362], *C. B. Robinson* 1861, *Sinclair* 9257, *Waterhouse* 114, and *Zwickey* 117 are *G. pentandra* (Roxb.) Merr.

Citations: CHINA: Kwangsi: *Ching* 7291 (Ca--409967). THAILAND: *K. Larsen* 8676 (S); *Rock* 1589 (Ca--264454). MALAYA: Johore: *M. R. Henderson* 36783 (Bz--21043); *Nur & Kirk* 7731 (Bz--18513). Selangor: *Balgooy* 2269 (N); *Burkill* 9040 (Bz--18512); *Kloss* s.n. [Forest Reserve, 12.8.1914] (W--2318002); *Nur* 34011 (S). PHILIPPINE ISLANDS: Mindanao: *Ebalo* 1131 (Mi); *Elmer* 10856 (Bi, Bz--18559, Le--911.160-426, N), 11102 (Bi, Bz--19560, Le--911.160-425, N, W--779462); *Tarrosa & Almagro* s.n. [Herb. Philip. Forest. Bur. 14928] (W--900103). GREATER SUNDA ISLANDS: Celebes: *Curran* 3425 (A); *Elbert* 2999 [7331] (Le--942.64-993), 2999 [7332] (Le--938.87-456), 3040 (N); *Kaudern* 417 (S); *Kjellberg* s.n. [1929] (S, S). Enggano: *Lütjeharms* 4562 (Bi, Bz--18183). Kalimantan: *Beccari* 786 (S); *Korthals* s.n. [Banka marsing] (Le--908.265-1122). Karakalang: *D. Fairchild* 414 (W--1941405, W--2185012); *H. J. Lam* 2523

(Bz--18489, Bz--18490, N), 2866 (B, Bz--18491, Bz--18492, N, Ut--2374A). Java: Backer 16278 (Bz--18338), 22748 (Bz--18336, Bz--18337, Bz--25481); Bakhuizen 766 (Bz--18462, Bz--18463), 889 (Bz--18467), 1559 (Bz--18343, Ut--58420), 2249 (Bz--18466), 2790 (Bz--183447); Blume s.n. [Java] (Le--944.201-393, N); Herb. Hort. Bot. Bogor. XI.G.85 (Bz--25793, Bz--26524, Bz, Bz), 85a (Bz, N), s.n. (Pd); Kollmann s.n. [Java, 1838] (M); Koorders 9727b (Bz--18475, Bz--25578), 9728b (Bz--18474), 9728b (Pd), 9729b (Bz--18471), 9730b (Bz--18469, Bz--18470, Bz--25586), 9731b [278\*] (Bz--18217), 9732b [279\*] (Bz--18218, Bz--18219), 9733b [280\*] (Bz--18220), 11154b (Bz--18215), 13286b [2257a] (Bz--18472, Bz--18473), 15204b [2373a] (Bz--18468, Bz--59419), 33770b [161\*] (Bz--18221, Bz--18222); Ploem s.n. (Le--909.26-76); J. J. Smith 860 (Bz--18459, Ca--236813); Winckel 145 (Ut--63769, Ut--63770), 145b (Bz--18344, Bz--18345, Bz--18346, Ut--63769, Ut--63770), 241b (Bz--18464, Bz--18465, Ca--265966), 247b (Bz--18460), 731b (Bz--18461), 1402 (Ca--301564), 1402b (Bz--18214, Ut--80264); Zollinger 786 (S). Moena: Herb. Neth. Ind. For. Serv. b.b.21756 (N). Sabah: Aban & Petrus SAN.90689 (Ld); Abas SAN.86018 (Ld); Agullana 3875 [field no. 429] (Ca--347209, Pd); Ampuria SAN.32630 (Ld), SAN.32658 (Ld); Brand SAN.30933 (Z); Clemens & Clemens 34036 (Mi, N); Cockburn SAN.65605 (Ld); Cuadra s.n. [N. Born. For. Dept. A.1238] (N, W--2210719), s.n. [Herb. N. Born. For. Dept. A.1274] (W--2210730), s.n. [Herb. N. Born. For. Dept. A.2294] (W--2210678), s.n. [Herb. N. Born. For. Dept. A.3082] (W--2317184); Dewol, Leopold, & Shea SAN.71163 (Sn--40650); Kadir s.n. [Herb. N. Born. For. Dept. A.2588] (W--2210693); Kokawa & Hotta 208 (Sn--100681); Lajangah SAN.36123 [Herb. N. Born. For. Dept. 40642] (Ld); Madani SAN.33151 (Ld); Meijer SAN.23770 (Ld); Sales 3726 (Bz--18335, Ca--347013); Sam A. 1721 (KL); Sam & Sisiron SAN.19219 (N, W--2413568); Sundaling SAN.80243 (Sn--49970); D. D. Wood 2649 [Mail 299] (Ca--320315). Sarawak: Native Collector 281 (W--1173945), 2528 (Ph), 2789 (Ph); Purseglove P.5408 (N). Simalur: Achmad 106 (Bz--18510, Bz--18511). Sumatra: Boeea 7457 (Mi, S, S, W--1682126), 7879 (Mi, S, W--1682265); Forbes 2764 (Le--908.141-194, Le--908.266-5, Le--908.266-10); Gusdorf 124 (Bz--18507, Bz--18508); Hamel 1045 (Ca--91913); Idris 75 [Boschproefst. b.b.2995] (Bz--18495, Bz--18496); Lörzing 4278 (Bz--18509), 6405 (Bz--18506); Lütjeharms 4562 (N, W--1681102); Mehpeh 31 [Boschproefst. b.b.4879] (Bz--18502), 45 [Boschproefst. b.b.4893] (Bz--18503); Posthumus 648 (Bz--18500, Bz--18501); Rutten-Korriston 8 (Bz--18493); Teijsmann s.n. (Le--908.266-904); Toroes 5010 (Ca--531046, N, N, W--1681102); Van Steenis 3254 (Bz--18497, Bz--18498); Voogd 195 (Bz--18494, Cb). LESSER SUNDA ISLANDS: Buton: Elbert 2760 [6535] (Le--938.87-454). MOLUCCA ISLANDS: Ceram: Buwalda 531 [Boschproefst. b.b.25876] (Bz--18175); Kornassi 571 (Bz--18478, Ut--80238); Rutten 1839 (Bz--18480, Ut--80263). Halmahera: Beguin 1859 (Bz--18476); Teijsmann 7458 (Le--908.266-914). Soelabesi: Atje 339 (Bz--18481, Bz--18482, Bz--18483). NEW GUINEA: Papua: Brass 3675 (N), 5495 (N), 21799 (Ng--17095). Territory of New Guinea: Weinland s.n. [Kaiser Wilhelmsland, 1889-91] (Mu--3941). West Irian: Gjellerup 917 (Bz--18385); Hollrung 525 (Mb); McKee 1775 (Ng--16875), 1933 (Ng--

16878); *Sijde* BW.4049 (S); *Van Leeuwen* 9163 (Bz--72660), 11262 (Bz--72662); *Van Royen* 4975 (Ca--90505). BISMARCK ARCHIPELAGO: *Hussau*: *Køie & Olsen* 1108 (Ac, Cp), 1237 (Ac, Cp), 1344 (Cp), 1390 (Ac, Cp). New Hanover: *Dissing, Køie, & Olsen* 1916 (Ac, Cp). CULTIVATED: Cuba: *Walsingham P.I.* 136643 [P.I.G.10309] (Ba). Florida: *Gillis* 11414 [M.13048] (Ld). LOCALITY OF COLLECTION UNDETERMINED: *Binnendijk s.n.* (Bz--18477); *Collector undetermined s.n.* (Le--908.265-320), *s.n.* (Le--908.266-846 in part, Pd); *DeLbonby 6* (Bz--18339); *Massarip* 99 [*Boschproefst. b.b.* 4097] (Bz--18499).

*GEUNSIA FARINOSA* var. *CALLICARPOIDES* H. J. Lam ex Mold., Résumé 295, in syn. 1959; *Phytologia* 50: 57, hyponym. 1981; var. nov. Bibliography: Mold., Résumé 295. 1959; Mold., *Phytologia* 50: 57. 1981.

Haec varietas a forma typica speciei floribus tetrameris recessit.

This variety differs from the typical form of the species in having tetramerous flowers. It is based on *Collector undetermined* 1343 from Kalimantan, Borneo, represented by sheet number 908.266-865 in the Leiden herbarium.

Citations: GREATER SUNDA ISLANDS: Kalimantan: *Collector undetermined* 1343 (Le--908.266-865--type). Java: *Koorders* 39149b [35\*] (Bz--18216).

*GEUNSIA FARINOSA* f. *SERRATULA* Mold., *Phytologia* 44: 473. 1979.

Bibliography: Mold., *Phytologia* 44: 473 (1979) and 50: 57. 1981.

This form differs from the typical form of the species in having its leaf-blades marginally very distinctly, although irregularly, serrulate, especially on the distal half.

Citations: GREATER SUNDA ISLANDS: Sabah: *Y. Fox SAN.57700* (Z--type).

*GEUNSIA FLAVIDA* (Elm.) H. J. Lam, Verbenac. Malay. Arch. 39. 1919.

Synonymy: *Callicarpa flava* Elm., Leafl. Philip. Bot. 3: 863--864. 1910. *Callicarpa epiphytica* Elm., Leafl. Philip. Bot. 8: 2871. 1915. *Geunsia epiphytica* (Elm.) H. J. Lam, Verbenac. Malay. Arch. 38--39. 1919. *Geunsia epiphytica* var. *typica* H. J. Lam, Verbenac. Malay. Arch. 39. 1919. *Geunsia epiphytica* var. *apiculata* H. J. Lam, Verbenac. Malay. Arch. 39. 1919. *Callicarpa pentandra* var. *typica* f. *flavida* (Elm.) Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 15--16. 1921. *Geunsia epiphytica* H. Lam apud E. D. Merr., Enum. Philip. Flow. Pl. 3: 384, in syn. 1923. *Callicarpa pentandra* var. *paloensis* f. *flavida* Bakh., in herb.

Bibliography: Elm., Leafl. Philip. Bot. 3: 863--864 (1910) and 8: 2871--2873. 1915; H. J. Lam, Verbenac. Malay. Arch. 38--39. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 15--16, 106, 107, 111, vi, xi, & xii. 1921; Prain, Ind. Kew. Suppl. 5, imp. 1, 43. 1921; E. D. Merr., Enum. Philip. Flow. Pl. 3: 384--385. 1923; A. W. Hill, Ind. Kew. Suppl. 6: 91. 1926; Fedde

& Schust., Justs Bot. Jahresber. 53 (1): 1070. 1932; Elm., Leafl. Philip. Bot. 10: 3860. 1939; Mold., Prelim. Alph. List Inv. Names 12 & 26. 1940; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 573. 1941; Mold., Alph. List Inv. Names 9, 10, & 25. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 93. 1942; Mold., Phytologia 2: 103. 1945; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 141 & 185. 1949; Anon., U. S. Dept. Agr. Bot. Subj. Index 15: 14354. 1958; Mold., Résumé 184, 242, 243, 246, 295, & 455. 1959; Prain, Ind. Kew. Suppl. 5, imp. 2, 43. 1960; Mold., Fifth Summ. 1: 317, 407, 408, & 416 (1971) and 2: 520 & 878. 1971; Mold., Phytologia 25: 240. 1973; Mukherjee & Chanda, Trans. Bose Res. Inst. 41: 40. 1978; Mold., Phytol. Mem. 2: 307, 405, & 548. 1980; Mold., Phytologia 50: 56. 1981.

A treelike shrub, sometimes epiphytic and to 3 m. long on the mossy limbs of large trees; main stems about 15 cm. in diameter at breast height, crookedly branched; wood soft or rather hard, white or whitish, light in weight, odorless, tasteless or a trifle sweetish; bark gray or yellowish, finely or minutely checked and scaling off, testaceous (except the epidermis); top branches wide-spreading; branchlets ascending to horizontal to descending, somewhat tetragonal or subterete, rather slender, minutely ferruginous- or brownish-tomentose with stellate hairs; twigs ascending, yellowish-brown; leaves arranged as an opposite pair followed by 1 or 2 alternate ones, often subternate or quaternate, mostly horizontally spreading; petioles 1.5--2.5 cm. long, minutely ferruginous- or brownish-tomentose with stellate hairs; leaf-blades chartaceous or subcoriaceous, oblong or lanceolate-oblong to almost lanceolate, 7--17.5 cm. long, 2.5--5.5 cm. wide, apically gradually acute or long-acuminate to subcaudate with the tips recurved (var. *apiculata* H. J. Lam), marginally entire, basally cuneate or subacute to acute, rarely subtruncate, flat or often shallowly conduplicate on the upper deep-green surface, stellate-hairy above when young, glabrous except for the ferruginous-pubescent larger veins when adult, very densely stellate-tomentose or furfuraceous with yellowish-brown or ferruginous hairs and subrugose to beautifully yellowish-tawny or yellowish-brown-lepidose beneath, drying yellowish or honey-color; secondaries 5--10 pairs; inflorescence ascending; cymes axillary, small or medium in size, 5--7 cm. long, 4.5--5.5 cm. wide, minutely ferruginous- or brownish tomentose with stellate hairs; peduncles 3--5 cm. long, yellowish-brown; bracts linear, greenish, about 7 mm. long, covered with a dirty-brown puberulence; flowers 6- or 7-merous; calyx greenish, 2.5--3 mm. long and wide, externally densely stellate-tomentose or furfuraceous to dirty-brown-puberulent, glandulose, the rim with 6--8 minute teeth; corolla pale-blue or blue to whitish, its tube 3--5 mm. long, basally glabrous, externally apically stellate-hairy or furfuraceous-tomentose and densely glandulose, the limb 6--8-lobed, the lobes imbricate, about 3 mm. long, marginally glabrous, centrally dorsally stellate-hairy; stamens 6 or 7, pale-blue, 6--9 mm. long, long-exserted; anthers oblong or lanceolate, 2.5--3.5 mm. long, about twice as long as wide, glandulose on both sides, more densely so dorsally; style pale-blue, 7--9 mm.

long; stigma subpeltate, pale-blue; ovary yellow, apically narrowed, stellate-hairy and glandulose; fruiting-calyx cupuliform, double or triple its former size, almost completely enclosing the fruit; fruit drupaceous, globose, rather large, 4-5 mm. long and wide, glandulose, somewhat ferruginous-stellate-hairy, red or bright-red when mature, 6- or 7-celled, the cells bipartite, each cell 1-seeded; seeds 6-14.

The type of *G. flavidia* is Elmer 11851 from fertile soil of dense woods on a steep slope of the Sibulan River, at 4000 feet altitude, Todaya [Mount Apo], Davao, on Mindanao island, Philippines, collected in September, 1909. The type of *G. epiphytica* [and its var. *typica*] is Elmer 13822 from above Danao lagoon, Cabadbaran [Mount Urdaneta], Agusan, Mindanao, collected in September, 1912; that of *G. epiphytica* var. *apiculata* is Elmer 13861 from the same locality and collected on the same date.

Lam (1919) distinguishes Elmer's two species as follows:  
 Corolla 6-merous.....*G. epiphytica*.  
 Corolla 7-merous.....*G. flavidia*.  
 His two varieties of *G. epiphytica* he separates as follows:

Leaf-blades oblong, basally acute or truncate, 7-13 cm. long, 2.5-5 cm. wide, apically acute and short-acuminate, the acumen absent or to 1.5 cm. long; petioles 1.5-2.5 cm. long; secondary veins 5-7 per side.....var. *typica*.  
 Leaf-blades lanceolate to lanceolate-oblong, 7.5-16 cm. long, 2.5-4.8 cm. wide, basally cuneate or subtruncate, apically long-acuminate, the acumen 2-3.5 cm. long; petioles 1.7-2.5 cm. long; secondary veins 7-10 per side.....var. *apiculata*.  
 He cites only the type collection for each of these taxa and this is true also for Bakhuizen's (1921) work in which he unites *G. flavidia* and *G. epiphytica* as a form of what he calls *Callicarpa pentandra* var. *typica*.

Merrill (1923) asserts that *G. flavidia* is endemic to primary forests on Dinagat island and on mountains in Mindanao from 1200-1500 m. altitude. He cites Elmer 11851, 13822, & 13861 and Ramos & Pascasio 35185.

Vernacular names recorded for the species are "lai-au-pan", "layaupan", "madolau", "panangoe", and "pananagok".

Elmer erroneously refers to the fruits as "berries". Actually they are true drupes.

Citations: PHILIPPINE ISLANDS: Dinagat: Ramos & Pascasio s.n. [Herb. Philip. Bur. Sci. 35185] (Bz--18258, Le--920.348-369, N). Mindanao: Elmer 11851 (Bi--isotype, Bz--18257--isotype, Le--911.160-424--isotype, N--isotype), 13822 (Bi, Bz--18259, Du--174894, Le--914.220-71, Mi, N, Ut--33522, Vi), 13861 (Bi, Bz--18260, Du--174893, Le--914.220-70, Mi, N, N, Ut--33519, Vi, W--894514).

*GEUNSIA FURFURACEA* (Bakh.) Mold., Am. Journ. Bot. 32: 612. 1945.

Synonymy: *Geunsia subternata* H. Hallier, Meded. Rijks Herb. Leid. 37: 25-26. 1918. *Callicarpa pentandra* var. *paloensis* f. *furfuracea* Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 15. 1921. *Callicarpa pentandra* f. *furfuracea* E. J. Salisb., Ind. Kew. Suppl. 11: 100, in syn. 1953. *Callicarpa pentandra* var.

*repleta* f. *furfuracea* Bakh. ex Mold., Résumé 246, in syn. 1959.

Bibliography: H. Hallier, Meded. Rijks Herb. Leid. 37: 23 & 25--26. 1918; H. J. Lam, Verbenac. Malay. Arch. 42 & 365. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 15. 1921; A. W. Hill, Ind. Kew. Suppl. 6: 91. 1926; Fedde & Schust., Justs Bot. Jahresber. 53 (1): 1070. 1932; Mold., Am. Journ. Bot. 32: 612. 1945; Mold., Alph. List Inv. Names Suppl. 1: 3. 1947; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 143, 146, 147, 150, & 185. 1949; E. J. Salisb., Ind. Kew. Suppl. 11: 100. 1953; Mold., Résumé 188, 192, 193, 195, 197, 204, 246, 295, & 455. 1959; Mold., Fifth Summ. 1: 324, 333, 339, 340, 415, & 416 (1971) and 2: 520 & 878. 1971; Mold., Phytol. Mem. 2: 315, 320, 329, 330, & 548. 1980; Mold., Phytologia 49: 474 (1981) and 50: 56 & 62. 1981.

Small tree, 2--11 m. tall, or shrub, to 6.5 m. tall; trunk 30--90 cm. in girth, with a clear bole to 2.5 m. high and a crown of 3 m.; outer bark brown or light-brown, lenticellate, smooth, sometimes fissured; inner bark green-yellow; branchlets rather slender, obscurely tetragonal or subterete; leaves arranged as one opposite pair followed by 1 or 2 usually smaller alternate ones, or subernate or even subquaternate, rarely all decussate-opposite; petioles 1.5--3 cm. long; leaf-blades oblong or lanceolate, 7--25 cm. long, 1.3--10 cm. wide, apically shortly and acutely acuminate, marginally entire, basally cuneate to obtuse or rounded, often subcordate, when adult glabrescent (except for the veins) above, subrugose and furfuraceous or farinose beneath or often subappressedly and very densely tomentose or white-lanate, with the veins stellate-ferruginous-pilose, in drying becoming cinnamon-color or tawny, often whitish; secondaries 7--12 per side; cymes medium-size or small, 3--10 cm. long; peduncles 1.5--6 cm. long; flower-buds violet; calyx green, 1--2 mm. long, externally very densely furfuraceous; corolla blue or violet to purple or red, sometimes white, 3--6 mm. long, 5-lobed, externally densely and minutely farinose-tomentose; stamens 5, 6--10 mm. long, long-exserted, deep-violet; anthers lanceolate or sublinear, 2--3.5 mm. long; style violet; stigma white; fruiting-calyx cupuliform, 2--3 times as long as before, enclosing the fruit almost to its apex; fruit drupaceous, subdepressed-globose, at first green, red when ripe, finally brownish, medium-sized, 5-celled, the cells bipartite, each section 1-seeded; seeds usually 10, rarely 5

Collectors have found this species growing in forests and rain-forests, in young or old jungles, in thin brushy vegetation appearing after fires, in the understory of primary forests, on hillsides and low land, in brown or yellow sandy-clay loam or limestone soil, at 15--200 m. altitude, in flower in January, March, June, September, and October, and in fruit in March and from September to November.

The corollas are said to have been "violet" in color when fresh on Chai & al. s.n. and Kjellberg 838, "purple" on Clemens & Clemens 21786, Jacobs 5469, and Kostermans 21434, "pink" on Jantan s.n. & Native Collector 5122, "red" on Kjellberg 409, "greenish-yellow" on Kadir s.n., "green" on Native Collector 5016 and SAN.

33306, and "white" on SAN.75611.

Vernacular names reported for the species are "belau", "ibobok", "kaompoet", "kimberi", "kim-~~beri~~"<sup>b</sup>, "quo-i-esu", "setepoeng", "talampoeng", and "tapong tapong".

*Geunsia subternata* is based on *Amdjah* 937 ["973"] from *Sungei Tikung*, at about 17--50 m. altitude, Kalimantan, Borneo, deposited in the *Buitenzorg herbarium*. In describing his *Callicarpa pentandra* var. *paloensis* f. *furfuracea* Bakhuizen (1921) cites the following collections, none of which is specifically designated as the nomenclatural type: GREATER SUNDA ISLANDS: Celebes: *Noerkas Exped.* *Vuuren* 425, *Rachmat Exp.* *Vuuren* 839, *Teijsmann* 12529. Kalantan: *Jaheri Exp.* *Nieuwenh.* 1232, *Labohm* 1152. Sumatra *Endert* 36. LESSER SUNDA ISLANDS: Banka: *Teijsmann s.n.* [Berkh. 1005]. He himself, however, later annotated *Rachmat* 839 as *Callicarpa pentandra* var. *paloensis* f. *genuina* (?), so it should be excluded from the list of candidates for logotype. I am citing it hereinafter under *Geunsia paloensis* (Elm.) H. J. Lam.

Material of *Geunsia furfuracea* has been misidentified and distributed in some herbaria as *G. farinosa* Blume, *Callicarpa arborea* Roxb., *C. farinosa* var. *typica* H. J. Lam, *C. longifolia* Lam., *C. pedunculata* R. Br., *C. pentandra* Roxb., *C. pentandra* var. *paloensis* f. *genuina* Bakh., and "*Callicarpa* sp."

On the other hand, the *H. Hallier* 348, distributed as *G. furfuracea*, actually is the type collection of *G. homoeophylla* *H. Hallier* and *Kajewski* 2340, 2485, & 2540 are *G. pentandra* var. *albidella* Mold.

Citations: GREATER SUNDA ISLANDS: Celebes: *Bloembergen* 4040 [146] (Bz--18701); *Boschgproefst.* B.B.11429 (Ca--345695), C.C.11429 (B); *Kjellberg* 409 (F--photo, N, N--photo, S, Sg--photo, Z--photo), 838 (S, S); *Noerkas* 425 (Bz--18302--cotype, Bz--18305--cotype); *Teijsmann* 12529 (Bz--18227--cotype, Bz--18228--cotype, Bz--18229--cotype). Kalimantan: *Abor bin Adon* 26 [Z.O.B.4004; *Boschproefst.* B.B.13597] (Bz--18263); *Amdjah* 973 (Bz--18264, Bz--18265, Le--191.329-17, Le--918.302-18); *Atmosoewarno* 28 [Z.O.B.3259; *Boschproefst.* B.B.10179] (Bz--18278); *Boschwezen* 1152 (Bz--18288), 1900 (Bz--18283), 2349 (Bz--18282, Hk); *Dachlan* 103 [Z.O.B.2122] (Bz--18279); *DeVries* s.n. (Bz--18289); *Endert* 2300 (Bz--72572); *Hallier* s.n. (Le--918.302-40); *Holinka* 64 [*Boschproefst.* B.B.23451] (Bz--18173); *Jaheri* 1232 (Bz--18284); *Korthals* s.n. [Borneo] (Le--908.267-655, Le--908.267-656, Le--908.267-657, Le--908.367-658, Le--908.267-659, Z), s.n. [*Martapoewe*] (Le--908.267-767, Le--908.267-788, Le--908.267-789), s.n. [*Sakoembang*] (Le--908.267-768, Le--908.267-769), s.n. (Le--908.265-1121, Le--908.265-1123); *Kostermans* 21434 (Ba, N); *Neth. Ind. For. Serv.* B.B.23451 (N); *Pangkeij* 54 [*Boschproefst.* 25144] (Bz--18172); *Ramali* s.n. [26 Sept. 1941] (Bz--18169); *Rasjid* 14 [Z.O.B.2452] (Bz--18281); *Slooten* 2279 (Bz--18290, Bz--18291, Bz--18292, Le--933.282-60, Ut--2375a); *Teijsmann* 8503 (Bz--18286, Bz--18287); *Van Steenis* 1935 [*Boschproefst.* B.B.18871] (Le--938.115-208); *Verhoef* 103 (Bz--18277, Bz--18278); *Winkler* 2141 (Bz--18285, Le--910.133-1279); *Zwaan* 883 [*Boschproefst.* B.B.18871] (Bz--18171), 885 [*Boschproefst.* B.B.18873] (Bz--18170). Sabah: *Ampuria* SAN.33306 (Z); *Evangelista* 935 (N); *Kadir* s.n. [Herb. N.

Born. Forest. Dept. A.2100] (W--2317134); Shea SAN.75611 (Sn--40663). Sarawak: Chai & al. s.n. [Herb. Sarawak Forest. Dept. S. 33198] (Ld, Mi); Clemens & Clemens 20613 (Bz--18262, N), 21447 (Bz--18261, N), 21786 (Bi, Bz--18268, E--987931, N, N); M. Jacobs 5469 (W--2377640); Jantan s.n. [Mt. Poi, 11.27] (Ca--357469); Native Collector 277 (N, N--photo, Ph, Z--photo), 533 (Bz--18280, Ca--214215, Le--923.150-1041, W--1173989), 5016 (Ca--357598, N), 5122 (Bz--18190, Ca--357598, Le--936.7-41 in part, Mi, N). Sumatra: Endert 36 (Bz--18306--cotype); Thorenaar 62 [Boschproef-st. 62.A.T.113] (Bz--18504, Bz--18505). LESSER SUNDA ISLANDS: Banka: Anta 626 (Bz--72663); Berkhouit 1005 (Bz--18310--cotype, Bz--18311--cotype); Teijsmann s.n. [Kliangka] (Bz--18312--cotype), s.n. [P. Pinang] (Bz--18313--cotype, Bz--18314--cotype), s.n. [Soengei Slan] (Bz--18307--cotype, Bz--18308--cotype, Bz--18309--cotype). BISMARCK ARCHIPELAGO: New Britain: Herre 179 (Le--936. 7-41 in part).

*GEUNSSIA GRANDIFLORA* H. Hallier, Meded. Rijks Herb. Leid. 37: 24. 1918.

Bibliography: H. Hallier, Meded. Rijks Herb. Leid. 37: 24. 1918; H. J. Lam, Verbenac. Malay. Arch. 32, 38, & 365. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 11, 13, 111, & xii. 1921; A. W. Hill, Ind. Kew. Suppl. 6: 91. 1926; Fedde & Schust., Justs Bot. Jahresber. 53 (1): 1070. 1932; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 66 & 93 (1942) and ed. 2, 147 & 185. 1949; Mold., Résumé 108, 195, & 455. 1959; Mold., Fifth Summ. 1: 324 (1971) and 2: 878. 1971; Mold., Phytol. Mem. 2: 315 & 548. 1980; Mold., Phytologia 50: 56. 1981.

A small tree, to 5 m. tall; branches 3--5 mm. thick; branchlets apically obsoletely angular, otherwise terete, densely stellate-tomentose with ferruginous hairs; leaves anisophyllous, subternate, 1 borne slightly below the other 2 opposite ones, a fourth more distantly above the opposite pair, all 4 similar in size and shape; petiole medium-thick or subrobust, 1.5--2 cm. long, dorsally flattened between 2 marginal angles, ventrally 2-angled; leaf-blades herbaceous, ovate-lanceolate, 11--17 cm. long, 4.5--7.5 cm. wide, apically rather long-acute or acuminate, basally unequally subrotund, glabrous and sordid-green above except for the ferruginous-tomentose midrib, sharply reticulate-venose under a hand-lens, densely stellate-ferruginous-tomentose beneath, because of the tomentum less conspicuously pinnate-and clathrate-venose; inflorescence corymbose; peduncles 2.5 cm. long; corymbs paired in the axils of the opposite pair of leaves, repeatedly dichotomous; bracts and bractlets linear-lanceolate, the former 2, situated on the elevated branches of the primary dichotomy, 1--1.5 cm. long; pedicels very short; calyx cupuliform, almost 2.5 mm. long, shortly and acutely 5- or 6-denticulate, externally densely ferruginous-tomentose; corolla "pink to brownish", long-ovoid in bud, about 5 mm. long, externally grayish and minutely but densely pulverulent-puberulent and only slightly glandulose, apically slightly stellate-tomentellous,

the tube half again as long as the calyx, the 5 or 6 lobes ob-ovate; stamens 5 or 6, adnate to the interior of the corolla-tube, slightly exserted; filaments basally minutely glandulose; anthers oblong, basally and apically emarginate, dorsally slightly glandulose along the connective as in *G. farinosa*, introrsely 2-cleft; style manifestly surpassing the stamens, clavate; stigma capitate, lobed.

This species is based on Elbert 3204 from Baula, altitude 0--150 m., in the Mengkoka District, southeastern Celebes, collected on September 26, 1909, and deposited in the Leiden herbarium. It is closely related to *G. farinosa* Blume, but differs in its coarser indument which is ferruginous and stellate-tomentose, in the larger, shorter-petiolate, subternate leaves, basally unequally rounded, its larger flowers, the densely ferruginous-tomentose calyx, and the corollas externally pulverulent-puberulent and slightly glandulose.

Collectors have encountered this plant in red soil along roadsides and in secondary forests, in anthesis in July, September, and October. Bakhuizen (1921) reduces it to synonymy under his *Callicarpa pentandra* var. *typica* f. *hexandra* (Teijsm. & Binn.) Bakh. along with five other unrelated taxa.

Material of *G. grandiflora* has been misidentified and distributed in some herbaria as *Callicarpa pentandra* Roxb., *C. pentandra* f. *farinosa* (Blume) Bakh., *C. pentandra* f. *pubescens* Bakh., *C. pentandra* var. *typica* f. *farinosa* (Blume) Bakh., *C. pentandra* var. *typica* f. *hexandra* Bakh., and *C. pentandra* *farinosa* (Blume) Bakh.

Citations: GREATER SUNDA ISLANDS: Celebes: Elbert 3204 [7928] (Le--938.87-5; 3--type, Z--isotype); Rachmat 620 (Bz--18566). Sumatra: Boeea 7879 (Ca--1014721); Krukoff 4351 (Br, Bz--18223, W--1750728); Posthumus 648 (Ut--96837); Toroes 5104 (Ca--531396, N, S, W--1681573). Sabah: Joseph & Kuntil SAN.92478 (Z).

*GEUNSIA HEXANDRA* (Teijsm. & Binn.) Koord., Meded. Lands Plantent. 19: 558, hyponym. 1898; H. J. Lam, Verbenac. Malay. Arch. 37. 1919.

Synonymy: *Callicarpa hexandra* Teijsm. & Binn., Tijdschr. Ned. Ind. 25: 40. 1863. *Callicarpa bezandra* T. & B. ex Koord. & Val., Meded. Lands Plantent. Bat. 42 [Bijdr. Booms. Java 7]: 174. 1900. *Callicarpa pentandra* var. *typica* f. *hexandra* (Teijsm. & Binn.) Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3:13--14. 1921. *Callicarpa pentandra* f. *floccosa* Bakh. ex Mold., Résumé 246, in syn. 1959. *Callicarpa pentandra* var. *typica* f. *hexandra* Bakh. ex Mold., Résumé 246, in syn. 1959. *Callicarpa hexandria* Teijsm. & Binn. ex Mold., Résumé 243, in syn. 1959.

Bibliography: Teijsm. & Binn., Natuurk. Tijdschr. Bed. Ind. 25: 410. 1863; Benth. in Benth. & Hook. f., Gen. Pl. 2 (2): 1150. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 4: 566. 1885; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 386. 1893; Koord., Meded. Lands Plantent. 19: 558 & 559. 1898; Koord. & Val., Meded. Lands Plantent. Bat. 42 [Bijdr. Booms. Java 7]: 174. 1900; Thiselt-Dyer, Ind. Kew. Suppl. 2: 81. 1904. [to be continued]